UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
REILLY, SEAN M

ART UNIT	PAPER NUMBER
2153	

DATE MAILED: 08/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	Applicant(s)
Office Action Summary		09/940,753	BOLDING ET AL.
		Examiner	Art Unit	
		Sean Reilly	2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _11 April 2005_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-4 and 9-35_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-4,9-25,27-32,34 and 35_ is/are rejected.

7)☒ Claim(s) _26 and 33_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

This Office action is in response to Applicant's amendment and request for

reconsideration filed on 4/11/2005. Claims 1-4 and 9-35 are presented for further examination.

Independent claims 1 and 17 have been amended. Claims 5-8 have been cancelled. Claims 20-

35 have been added.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making
> and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it
> pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode
> contemplated by the inventor of carrying out his invention.

1.   Claims 27 and 34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply

with the written description requirement. The claim(s) contains subject matter which was not

described in the specification in such a way as to reasonably convey to one skilled in the relevant

art that the inventor(s), at the time the application was filed, had possession of the claimed

invention. In particular, the specification failed to disclose using a *snooping protocol* to learn

the contents of messages received by the router.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

2.   Claims 27 and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention.

3. With regard to claims 27 and 34, the term "snooping protocol" renders the claim indefinite.

It is not clear what a "snooping protocol" is or how one would be used to the learn the contents

of messages received by the router. It is presumed that the router *snoops* the messages in order

to learn the contents of messages received by the router.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-3 and 9-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin

et al. (U.S. Patent Number 6,765,927, hereinafter "Martin") and the Real-Time Streaming

Protocol (RTSP) as set forth in Internet Engineering Task Force Request for Comment 2326

(hereinafter RFC 2326).

In considering claim 1, Martin discloses an intermediate network device for use within a

computer network having a server configured to provide one or more data streams to a client,

each stream having a corresponding bandwidth, the network device comprising:

  ❑   means for determining network traffic characteristics sufficient to identify a stream

      from the server to the client (Col 3, lines 21-24);

❑ a packet classification engine for snooping on messages for determining the

bandwidth of the stream (Col 3, lines 23-26 and Col 5, lines 1-5); [The bandwidth is

be detected in order to properly generate the path message (Tspec). The RSVP

component 246 in Figure 2 detects when a Path message should be sent based on an

incoming packet and then further determines the network characteristics for

generating an appropriate Path message.]

❑ a resource reservation protocol (RSVP) transmitter proxy (Col 3, line12) configured

to reserve resources within the computer network on behalf of the server for

allocation to the stream (Col 2, line 62 "flow characteristics" and Col 3, lines 23-27).

Martin disclosed the invention substantially as claimed however, Martin failed to

specifically recite what protocol the snooped messages of the stream (data flow) use.

Nevertheless Martin specifically left his system open ended to work with any flow (Col 3, lines

15-17). A well-known streaming protocol for data flow at the time of the invention was the

Real-Time Streaming Protocol (RTSP), defined in RFC 2326. RFC 2326 disclosed a protocol

(RTSP) for stream *control* (RFC 2326, Abstract). RFC 2326 further disclosed that stream

delivery issues will rely on other protocols such as RSVP (RFC 2326, two paragraphs above

Appendix A). Thus, it would have been obvious to one of ordinary skill in the art at the time of

the invention to design the Martin system to snoop RTSP stream messages, given that the RTSP

protocol teaches using the stream delivery protocol RSVP in conjunction with RTSP, in order to

provide both stream *control* and stream *delivery*.

In considering claim 2, Martin discloses the intermediate network device of claim 1 wherein the RSVP transmitter proxy is configured to generate and send one or more RSVP Path messages on behalf of the server, the one or more RSVP Path messages containing the network traffic characteristics and the bandwidth of the stream (Col 3, lines 23-27).

In considering claim 3, Martin discloses the intermediate network device of claim 2 wherein the RSVP transmitter proxy is configured to terminate RSVP Reservation (Resv) messages that are sent to the Server (Col 3, lines 42-46). [Figure 1 also shows a clear illustration of where the Resv messages travel, from the client (Component 120) to termination at the proxy server (Component 140).]

In considering claim 9, the intermediate network device of claim 8 wherein the packet classification engine is configured to extract the bandwidth of the stream from one or more messages whose contents are organized at least in part in accordance with the Session Description Protocol (SDP). It was widely known that the Session Description Protocol (SDP) can be used to describe characteristics of RTSP streams (including bandwidth) as evidenced in the RTSP protocol (RFC 2326, Appendix C) thus, it would have been obvious to extract any relevant stream information in accordance with the SDP protocol.

In considering claim 10, Martin discloses the intermediate network device of claim 9 further comprising a session manager configured to store the network traffic characteristics and bandwidth of the stream (Col 4, lines 27-29).

In considering claim 11, the RTSP protocol discloses an RTSP state manager which includes one or more state machine engines, configured to maintain the RTSP state of the stream (RFC 2326, Appendix A.2).

In considering claim 12, Martin discloses the intermediate network device of claim 2 wherein

- the client has a network layer address and a transport layer port for use in receiving the stream from the server (Col 4, line 59-61; included in a Path message),

- the server has a network layer address and a transport layer port for use in sending the stream to the client (Col 4, line 59-61), and

- the network traffic characteristics include the client's network layer address and transport layer port and the server's network layer address and transport layer port (Col 4, line 59-61).

In considering claim 13, Martin discloses the intermediate network device of claim 12 wherein the stream uses a given transport layer protocol, and the network traffic characteristics include the given transport layer protocol (Col 4, line 59-61).

In considering claim 14, Martin discloses the intermediate network device of claim 13 wherein the RSVP Path messages generated and sent by the RSVP transmitter proxy on behalf of the server include a session object containing the client's network layer address and transport layer port and the transport layer protocol associated with the stream (Col 4, line 59-61).

In considering claim 15, Martin discloses the intermediate network device of claim 14 wherein the RSVP Path message includes a sender template object containing the server's network layer address and transport layer port associated with the stream (Col 4, line 59-61).

In considering claim 16, Martin discloses the intermediate network device of claim 15 wherein the RSVP Path message includes a sender Tspec object containing the bandwidth of the stream (Col 5, line 4).

2. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martin as applied to

claims 1-3 above, and further in view of the Resource ReSerVation Protocol (RSVP) as set forth

in Internet Engineering Task Force Request for Comment 2205 (hereinafter RFC 2205).

In considering claim 4, Martin discloses an RSVP host proxy which is capable of

generating RSVP Path messages and receiving RSVP Resv messages on behalf of a server as

stated above.   However, Martin fails to disclose an RSVP host proxy which is capable of

generating RSVP Path Teardown messages on behalf of a server. Nonetheless, the use of RSVP

Path Teardown messages is well known, as referenced by RFC 2205.

Martin discloses that the RSVP host proxy supports the RSVP protocol set forth in RFC

2205 (Martin Col 3, lines 1-5). Section 2.4 of RFC 2205 discusses the use of RSVP Path

Teardown messages within the RSVP protocol. RFC 2205 goes on to recommend "that all end

hosts send a teardown request as soon as an application finishes" (Section 2.4, paragraph 1).

Thus, giving the teachings of RFC 2205, it would have been obvious to a person having ordinary

skill in the art to design the Martin system to support RSVP Path Teardown messages, since the

messages are recommended by the RSVP protocol.

3. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin and

"Format of the RSVP DCLASS Object" Request for Comment 2996 (hereinafter RFC 2996).

In considering claim 17, claim 17 is rejected using similar rationale as set forth with

regard to claim 1 and the Martin reference.

In further considering claims 17-19 and the use of DSCP, as discussed above Martin disclosed a means for obtaining the stream bandwidth and a means for including the obtained bandwidth within an RSVP Path message Tspec object. However, Martin fails to disclose a means for obtaining a differentiated services codepoint (DSCP) value that is based on the bandwidth of the stream. Martin also fails to disclose the intermediate network device of claim 17 wherein the RSVP transmitter proxy is configured to load the DSCP into the RSVP Path message generated and sent on behalf of the server. Martin further fails to disclose the intermediate network device of claim 18 wherein the RSVP Path message includes a DCLASS object containing the DSCP.

Nonetheless, the use of RSVP Path messages that contain differentiated services codepoint (DSCP) values within DCLASS objects was well known as evidenced by RFC 2996 (Abstract). In an analogous art, RFC 2996 disclosed the use of DCLASS objects within RSVP messages in order to enhance the manageability of application traffic QoS in a differentiated service network (RFC 2996 Abstract). Thus, it would have been obvious to one of ordinary skill in the art to design the Martin system to obtain a differentiated services codepoint (DSCP) value that is based on the bandwidth of the stream, in order "to enhance the manageability of application traffic QoS in a differentiated service network" (RFC 2996, Abstract). Further, it would have also been obvious to include within an RSVP path message, the determined DSCP value in a DCLASS object, given that such usage is disclosed in the RFC 2996 protocol and would enhance the manageability of application traffic QoS in a differentiated service network (RFC 2996, Abstract).

4. Claims 20-25, 27, 29-32, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Martin and Merwe et al. (mmdump: A tool for Monitoring Internet Multimedia Traffic;

hereinafter Merwe).

In considering claims 20-21, 22-24, and 29-31, Martin disclosed a method for providing

one or more data streams from a server to a client, each stream having a corresponding

bandwidth, the method comprising:

- □ determining network traffic characteristics sufficient to identify a stream from the

    server to the client (determining the flow meets RSVP sender host proxy criteria)

    (Col 3, lines 21-22);

- □ determining the bandwidth of the stream (Col 3, lines 21-26 and Col 5, lines 1-10)

    [The bandwidth must be detected in order to properly generate the path message

    (Tspec). The RSVP component 246 in Figure 2 detects when a Path message

    should be sent based on an incoming packet and then *further determines the*

    network characteristics for generating an appropriate Path message.]

- □ sending via a resource reservation protocol (RSVP) transmitter proxy, messages

    to nodes along a data path from the server to the client to reserve resources within

    the computer network on behalf of the server for allocation of the stream (Col 3,

    lines 26-33)

- □ receiving a RSVP reply message from the client, the RSVP rely message

    reserving resources for the requested traffic flow (Resv message) (Col 3, lines 33-

    46)

      ❑   receiving a data message of the traffic flow from the server and transmitting the

data message of the traffic flow with a resource reservation indicia in the data

message, the resource reservation indicia to direct the data message to travel

along the reserved resources (Col 4, lines 27-38).

Martin disclosed the invention substantially as claimed however Martin failed to

specifically recite receiving a message from a client to a server, wherein the client message

requesting that the server begin sending a traffic flow to the client. Further Martin failed to

specifically recite receiving a response message from the server, the response message

responding to the message from the client. Nevertheless Martin disclosed the detection of a flow

from a server to a client (Col 3, lines 15-20). Further it was also well known in the art at the time

of the invention to detect the start of a flow based on a client request and server response, as

evidenced by Merwe. In an analogous art, Merwe disclosed a system for monitoring multimedia

traffic flows using the RTSP protocol (abstract). The Real Time Streaming Protocol (RTSP) is

the dominant control protocol for controlling the streaming of content on the Internet (Sect. 2.2).

Merwe's system detects client requests for the server to begin sending a traffic flow (RTSP

describe message) and the corresponding server response (media specific information about the

stream) (Section 2.2 and Figure 1). It would have been obvious to one of ordinary skill in the art

at the time of the invention to modify Martin's system to detect traffic flows based on the client

request and server response pair of RTSP as disclosed by Merwe (Section 2.2), since the RTSP

protocol is the dominant control protocol for streaming content on the Internet (Merwe Sect 2.2.

1st ¶).

In considering claims 25, 27, 32, and 34, Martin disclosed means for reading (snooping) messages received by the router parameters of a traffic flow, the traffic flow requested by the client for the server to transmit to the client (determining that the data packet meets RSVP sender host proxy criteria) (Col 3, lines 21-22).

5. Claims 28 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin and Merwe et al. (mmdump: A tool for Monitoring Internet Multimedia Traffic; hereinafter Merwe) as applied above and further in view of Gai et al. (RSVP Proxy – Internet Draft; hereinafter Gai).

In considering claims 28 and 35, as discussed above Merwe disclosed receiving first message by the router, the first messages originating from computers connected to the Internet and directed to the server (Sect. 2.2. DESCRIBE message) and receiving second messages by the router, the second messages originating from the server and directed to client connected to the internet (Sect. 2.2. server response – media specific information). However both Martin and Merwe failed to specifically recite connecting the router one hop away from the server. In an analogous art, Gai disclosed an RSVP Sender Proxy (see Section 3) analogous to Martin's proxy. Gai disclosed the router (RSVP proxy) is one hop away from the server (Figure 1) such that the most Path message enabled additional downstream network elements can benefit from the information carried in the signaling messages (Section 4, Where to Proxy). It would have been obvious to one of ordinary skill in the art at time of the invention to incorporate the teachings of Gai within the combined Martin and Merwe system so that the most Path message enabled downstream network elements can benefit from the information carried in the signaling messages (Gai Section 4, Where to Proxy).

Allowable Subject Matter

Claims 26 and 33 are objected to as being dependent upon a rejected base claim, but

would be allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claims.

Response to Arguments

4.   In response to Applicant's request for reconsideration filed on 4/11/05, the following factual

arguments are noted:

    a.   Martin failed to disclose an equivalent to "snooping."

    b.   The Examiner failed to point where Martin suggested the combination of Martin and

       RFC 2996.

    c.   Martin fails to disclose receiving a message from the client from which information is

       derived.

In considering (a), Examiner respectfully disagrees with Applicant's argument. Martin

clearly disclosed the equivalent of snooping. For instance switch 140 (figure 1) intercepts data

packets regularly to determine intercepted packets meet RSVP sender host proxy criteria thereby

requiring and RSVP Path message to be transmitted (Col 3, lines 21-26).

In considering (b), Examiner respectfully disagrees with Applicant's argument. In

response to applicant's argument that there is no suggestion to combine the references, the

examiner recognizes that obviousness can only be established by combining or modifying the

teachings of the prior art to produce the claimed invention where there is some teaching,

suggestion, or motivation to do so *found either in the references themselves or in the knowledge*

generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5

USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In the instant case, the rationale for the combination of Martin and RFC 2296 is clearly mapped

above and specifically drawn from RFC 2296.

In considering (c), Applicant arguments are noted however they are moot in view of the

new grounds of rejection set forth.

Conclusion

5.   The prior art made of record, in PTO-892 form, and not relied upon is considered pertinent

to applicant's disclosure.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean Reilly whose telephone number is 571-272-4228. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on 571-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MARC D. THOMPSON

PRIMARY EXAMINER